361 /389 cont./
342 he wants to steer in the direction of a food supply; where /370/ and when something falls into his hands he will stop and land. Accordingly, the landing place determines whether the family will erect only a small protective roof or a cone-shaped hut or the somewhat more elaborate construction of a dome-shaped dwelling. For the latter many long flexible green saplings and thick foliage are needed; for the second type, several short poles suffice; for the first, the few hides which everyone carries along in his canoe are adequate. Whatever external circumstances present, whatever the landing place offers, what at the moment seems most suitable, that is what the Indian chooses and decides to do. Plans far in advance would prove not only impractical for him, but usually also impossible to carry out, and therefore he does not even consider them. As though by way of compensation, however, he has a ready mental agility for making sudden resolves, and this helps him in every situation to make an instantaneous decision.

The greatest contrast to permanent settlements is the very temporary shelter which a sudden impending need teaches him to erect very quickly. Whatever the Indian happens to find, he hurriedly collects and uses to help himself as best he can. One cannot call such provisional contrivances dwellings, since they are meant only to offer cover for brief hours, for example, during a storm or rain, during sunshine, or because of an unconquerable crosscurrent. They are erected in a few minutes and are always arranged according to the local condition (4).

> 4. It is only with reference to this that the following words are valid: "The Fuegians have several kinds of huts; they vary their constructions according to the nature of the country they are in and according to the length of time they must stay there" /translated from French/ (La Nature: 274).

342 Often they crawl under an overhanging rock, into a shallow de-
• 372 pression in a rock, or into a flat cave-shaped dip in the ground, using dense brush or coverings of pieces of leather to keep out pouring rain or a sweeping wind. Mostly they are content to use slight, effortless movements of the hands which suffice to keep the fire glowing steadily

/370 cont./

342 or to start a big flame. A Yamana family would scarcely ever
372 enter deeper rock declivities and actual caves, of which there are few, because they would not feel comfortable there and because the amount of smoke that would develop from the indispensable fire would drive them out again (5).

5. A few suitable rock formations and caves serve merely as cover which our Indians seek out in order to be barely sheltered for a few hours against sudden storms. In this sense Hyades (f): 558 is correct when he says: "They also settle under an overhanging rock in some easily accessible cave; for them the essential thing is to be able to build their fire" /Ed., translated from French/.

342 Actual wind screens, such as are indispensable to the northern Selk'nam (Vol. I, 197), are used as seldom as cave dwellings. /371/ It is true that for brief, forced encampments or for an urgent rest stop a simple protective roof is erected from rather large boughs covered with thick foliage, the free ends of which come together at the top, or they use a few poles and place pieces of leather on them to form a sheltering wall, or finally, they make a rude shelter of brushwood stuck in the ground as close together as possible. In all this, however, they do not follow a unified, invariable plan, but in each case choose what is possible and functional, depending on whether the sun is shining or whether they must mitigate the annoyance of bad weather, whether there is plenty of foliage at hand or nothing but a field of stone. Such a casual and transient shelter is called aiesia. When the family travels on, they naturally abandon this construction without further thought to the destructive forces of nature and thus give up their right of ownership to it (6). I saw the three basic types

[423] 6. Rau (in Outes [g]:57) is the only one who holds the mistaken view that "the huts do not belong to the persons who built them, but rather are common property" /translated from

/387 cont./

used except when the wind was too strong, in which case only one or the other was temporarily left open.

Inside the dwelling each family chose its particular place which it retained without any special boundary lines (42).

> 42. There were such boundaries in very isolated cases, however. Hyades (f) :556 says: "Twice at Orange Bay we saw huts with two or three interior compartments, niches made by vertical tree trunks. These niches served as quarters for the night for three or four persons" /translated from French/.

Members of the same family preferred to gather together on one side of the fire. Usually a single continuous fire extending the entire length of the hut was kept going. In exceptional cases however, when members of an individual family chose their places on either side of the middle line, each family made its own fire, so that one could tell how many families there were from the number of separate fires. One could sometimes observe the same thing in the ordinary dome-shaped hut if, for some reason, two or three families were occupying it together for a few days (43).

> 43. Bridges (MS:XII, 11; 1878) once wrote: "There were three men, five women, and seven children in this wigwam, and three fires lit in different parts" /cited in English/.

The wide areas on either side of the canoe line where the fire was burning were the sleeping places, where the Indians squatted or lay stretched out during the day. Bunches of the long leaves of Poa flabellata grass with its narrow leaves were preferred for a pallet. This served very well and became musty only after considerable time. It was then removed and replaced by a fresh layer. The lower part of the outside covering of the hut was made tight to keep off the wind and to make the fire burn evenly. Otherwise the smoke would be blown about, since the few

/387 cont./

openings in the top prevented it from escaping easily. The entire structure was well insulated, for it was meant to offer special protection against the rigors of the climate. Since it was built in the damp western part where dry firewood was not available in large quantities, the Indians managed by constantly carrying green wood into the hut and piling it up. In a few days it was dry and only then was used for burning. Even a supply of tamarack grass (Poa flabellata) was kept on hand, for this litter for the bed had to be renewed at least every two weeks.

The men supplied the necessary food for their families on communal hunting expeditions which were usually so successful that a good share of the booty could be stored away for a few days. This helped in periods when the hunt was seriously hindered by continuous stormy weather. They were anxiously concerned about having an abundant supply of meat always on hand, if not perhaps a whale /388/ lying on the shore. Otherwise the gathering of many people in the same place in a securely built hut would not only be pointless, but even dangerous. Inevitably the inhabitants frightened the game farther and farther away from the dwelling, which made hunting increasingly difficult. Then only ample stores kept off the threatening specter of hunger.

A hut for several families was occupied only in winter. Wanderlust was too strong to detain a family in one spot any length of time for other reasons. The people who built a communal hut would perhaps come back to it for a second winter, but not after that, for the game supply had been exhausted over a wide area, and they themselves were kept away by the boredom of sitting still. The arrangement described here might be referred to as the "winter hut." Near it a sort of winter supply was piled up. The very safe shelter provided somewhat comfortable living conditions, and during the long periods of inactivity together, favorite myths and legends were repeated, or the people told each other stories of their own experiences and Eskimo stories. Communal huts were not built in the east, and the reason is simple: weather and hunting conditions were much more favorable there.

After a few families have settled in the so-called multiple-family hut, they not infrequently erect another building directly beside it for the half-grown children, and this is appropriately known as the "children's hut." It resembles the first hut in shape

/392 cont./

364 he does not quickly get away. The vicinity of a stranded whale is like a large, boggy slough of blubber, and all around the dwellings pieces of meat and fat are decomposing; an abundant superfluity leads to carelessness in utilization. In order to be able to endure such conditions for any length of time, one has to be a Yamana. These conditions seldom occur, however, and when they do, they are welcomed by our Indians because of their obvious important advantages and the considerable relief they bring. Meanwhile the Indians gladly do without any kind of comfort and cleanliness.

5. The Fire

372 It is utterly superfluous to demonstrate in detail the vital importance of fire in the household, in economic activity, and in the very existence of the southernmost Fuegians. Without fire they could not exist in their damp, cold homeland, and what I observed among the neighboring Selk'nam (Vol. I, 204) holds true for them also, namely, that fire is more indispensable than any kind of protective dwelling. Hyades (q) :345 writes about this necessity as follows: "Because of the rigors of the climate and the absence of clothing, the Fuegians have a passion for fire" /translated from French/. Hence it is nowhere absent. Fitz-Roy (a):187 has observed: "Fire is always kept alive by these savages wherever they go, either in their canoes, in their wigwams, or even in their hand, by a piece of burning wood; but they are at no loss to rekindle it, should any accident happen" /cited in English/.

They guard the fire, pusaki, with special zeal, in the hut and in the canoe, to make sure that it never goes out. Even so, a family loses it when the craft collapses or a heavy downpour with a sudden wind destroys the dwelling (51). Their method of

51. Hyades (f) :559 is entirely correct in his judgment: "The fire is never extinguished, except by accident" /translated from French/.

lighting the fire resembles that of the Selk'nam (Vol. I, 207), namely, by striking the flint, tewali, against iron pyrites or, more recently, against a big nail. Weddel (a) :105 has already observed:

/392 cont./

"They rub iron pyrites with flint and catch the sparks in a dry, moss-like substance." Usually the grain of pyrite is somewhat larger than the flint, and the two together are regarded as a loving couple, mítuku; hence, the former is the male, wa, while the latter is the female, kipa (52). The spark is caught in a loose

52. Speaking of the flint, Hyades (q) :304 and (d) :309 erroneously maintains that "the Fuegians usually obtain fire by striking two of these stones, unequal in size, against each other" /translated from French/. We read the same thing in Bridges (i):10 and in Spegazzini (a):163. Dabbene (b):194 writes: "Fire is obtained by striking two pieces of stone, which contain iron pyrites, against one another" /translated from Spanish/. This procedure would not bring results, as everyone knows. Compare Colini: 238.

bundle of down, túfuku. They /393/ prefer to use a puffball as tinder, bákan, the dry spores of which very easily begin to smolder (53). They also use cúĕr, fine shavings of barberry stems.

53. "The tinder used is the inner down of birds, well dried; very fine dry moss; or a dry kind of fungus found on the under side of half-rotten trees," according to Fitz-Roy (a) :187 /cited in English/.

By gently blowing, they get the smoldering parts to flare up, immediately add feathers or fine lichen, and finally twigs and branches. Before that they place the puffball on a small piece of leather or on gravel so that it does not become damp. The man bends over very low and holds the stones very close. Usually he must work for some time, because the objects are damp, because of the humidity in the air, or because the sparks simply will not catch.

In former times the adults, usually man and wife, carried a small leather pouch, asánu, in which the tinder and the two

/393 cont./

•372 objects for striking fire were carried to keep them dry; thus they could manage anywhere. They protected the down and puff balls even more carefully by keeping them in the dry web of a large sea bird, although puffballs are protected against damp air as long as their outer skin does not burst. Every family always has a number of dry puffballs on hand, which are gathered in the fall and carefully stored throughout the year. Pyrite is found in several places in the extensive Yamana territory, but lumps of flint are rarer and are a popular object of trade. The flint most in demand, Iswili (BD: iswāli), was obtained in the Anjawia Valley which lies [316] between Ushuaia and Lapataia (54). Only small amounts were

54. Compare Lothrop (b) :130. Thomas Bridges also once looked for it, in April, 1884, accompanied by several Yamana. He reports: "We ascended the large valley called Aniwia, celebrated for its flints, as the source of supply of arrow and spear flint heads for all Yagha land. We searched in vain for the spot whence the large supplies in former times were obtained" (MM:XVIII, 182; 1884) /cited in English/. Earlier, in June, 1883, this missionary wrote, (MM: XVII, 139; 1883) that flint was to be found only on Clarence Island (cf. Hyades [q] :10 and Vol. I, 207). It has been proved, however, that the Yamana found and used it also in the central part of their territory. Fitz-Roy (a) :187 writes: "Where the pyrites is usually obtained, I do not know; but it cannot be plentiful in the Tekeenika country" /cited in English/. Certainly, these things were found there only sparingly.

found there, however. Hence the Yamana usually depend on [438] barter for their flint which was found in Cockburn Channel on the north shore of the Brecknock Peninsula, outside Beagle Channel. This flint was very hard and brownish-black. To guard against

/393 cont./

372 losing it, a man would sometimes cut a groove in it, into which was fastened one end of a string of tendon, the other end being tied to a small basket or some larger object.

Everyone is anxious to avoid the trouble of kindling a fresh fire. Before he does so himself, he looks around to see /394/ if he can obtain a glowing stick of wood from a near neighbor. This he fetches and uses to light his own fire.

This comforting and indispensable element finds its most 372 important use as the hut fire. It occupies the center of the round 354 or oval groundplan, but in certain constructions it extends lengthwise through the entire hut (pages 31 and 32). When there is no gravel or broken stone on the ground of the hut, the fire is built on a few flat stones or on a pile of several stones the size of a fist and many mussel shells (55). After some time a broad bed of ashes

55. As Lovisato (b) :133 points out, in the middle of the hut there is "the hearth, made with a few pieces of stone, but especially with many round, small pebbles upon a heap of cockle and limpet shells" /translated from Italian/.

protects this fire from any dampness of the earth. The fire place itself is called apún. Only beech wood is used. Logs of the pepper tree (Drimys winteri) cause a thick, stinging smoke and do not burn easily; hence, they are not used.

372 Throughout the day the Indians like to keep bright flames alive. They place the middle part of rather thick logs and long sticks into the fire. When that is burned through, they shove the two ends from the back gradually farther into the blaze. Since these pieces are arranged one above the other, there is enough draft; if it fails, someone helps it along by lying flat on the ground and, with puffed cheeks, blowing into the embers, or he fans it vigorously for a few minutes with a piece of leather or a bird's wing. Thick logs burn poorly if they are not laid on thin crossed sticks and if one does not constantly push glowing pieces against them.

For the night the fire is scraped closer together toward the center. This provides a deeper bed of embers and gives the

/394 cont./

372 occupants of the hut more room for their beds. At this time they do not want leaping flames, but a steady glow that gives out an even heat and does not endanger either the hut or the sleepers. Abundant ashes prevent it from going out before morning. The occupants lie down around the fire in no particular order, eager to enjoy its comfort. That is why there is restless movement in this tangle of sleeping human beings all night long, for each one turns and twists this way and that.

374 Despite their being accustomed to the unavoidable smoke, these Indians are not insensitive to it; indeed they regard it as an annoyance and bad for the eyes (56). Often they can find only

> 56. Hyades (f) :559, too, admits that despite all caution "their fire does not burn without giving off smoke, which is often quite thick and is very annoying to them, in spite of their being accustomed to it" /translated from French/. Fitz-Roy is absolutely right when speaking of their "smallleyes, suffering from smoke," he says, "their eyelids are made red and watery by the wood smoke in their wigwams" (King:175) /cited in English/.

damp wood to burn which unavoidably causes a great deal of stinging smoke. Hence /395/ the woman carefully covers those parts of the dwelling that let in the wind to whirl the smoke around inside. Although the people much prefer to have the hut entrance open toward the beach to be able to watch their canoe and the flow of the water, they alter this plan as soon as the wind disturbs their quiet fire. In the long, dome-shaped huts they leave two entrances to begin with (p. 20), closing the one or the other alternately, as the protection of the fire dictates. In spite of the best possible covering of the framework, a great deal of cold air flows in at ground level, which annoys the occupants. Hence the entire floor surface of the interior is dropped as much as 50 centimeters (p. 23). This protects the occupants from the penetrating air, while the spreading warmth of the fire, which can

/395 cont./

burn quietly, is not lost. Similar advantages are afforded by a wall of mussel shells, which grows in rings in those places chosen year after year for the dwelling. Here it is superfluous to lower the ground level in the interior by excavating, because the outer wall rises above it in any case.

At times when a storm becomes particularly strong and the fire cannot be protected, the people are wrapped in a thick cloud of ashes and smoke within their hut. While this is going on, they lie flat on the ground and cover themselves with pieces of leather. Sometimes it is hours before they get up and shake off the layer of ashes from their bodies and belongings. Sometimes they must endure heavy showers of rain which make them tremble with cold. As soon as possible they again start a gaily blazing fire and move very close to it in order to get warm through and through after all their discomfort.

The Indians could not do without their fire in the canoe any more than in their hut, either by day or night, because on the water they are even more helplessly exposed to the hardships of the weather in their unfriendly homeland. They carry it with them everywhere and without exception. If heavy rain should extinguish it, they make straight for shore. The fire, narrowly confined, is laid in the middle section on a safe, partly wet layer of clumps of turf, gravel, and clods of earth (57), which prevents

57. On this subject Outes (g) :52 says only: "The fire, especially in the canoes, is maintained on stones and earth" /translated from Spanish/. Hyades (q) :304 gives more detailed statements.

it from burning through. It is kept going with short, thin pieces of wood, and they do not let high flames develop. They are constantly aware of the danger threatening the bark vessel from this fire. If the boat should rock badly, they extinguish the embers for safety's sake by pouring water from the sea over them. Even when the journey is smooth, they permit only a weak glow, and when someone wishes to warm himself, he moves closer to it. The boys and girls in any case crouch in the middle of the boat.

/395 cont./
They have loaded up with firewood before their departure and piled it near the fire. Here it dries a bit and /396/ is conveniently at hand when needed (58). The children feed the fire according to

58. For a longer trip they provide themselves amply with firewood and stack it, as Hyades (q) :304 has observed, at one of the two ends of the boat.

their parents' instructions.

When possible, they take only very dry wood in their canoe, since the unpleasant smoke from wet wood could scarcely be avoided. When they leave their craft upon landing, the children carry the glowing sticks of wood to shore and place them on the spot which is to be the center of their new hut. Here they soon rekindle a larger fire. The Indians are scrupulously conscientious

Fig. 14. Fire Tongs.

about extinguishing all glowing embers of the canoe fire by dousing them with water. If they continue their journey the next day, the children once more carry the glowing sticks of wood to the canoe and light a new fire in it.

Whenever a family leaves their fire, either in the canoe or in the dwelling, they take care to put out even the last glimmering bit. The fire could easily come alive again, /Fig. 14 appears here/ spread, and cause serious destruction. The glowing embers are scattered, pounded and beaten with a cudgel, covered with gravel or sand, and finally doused liberally with snow or water. This removes all danger.

To arrange the fire and distribute the glowing pieces of wood, the Indians reach for any stick that happens to be handy. They like to use regular fire tongs which no family is without. Here they are known as láka (Fig. 14), also lákka according to BD: 278, and correspond exactly to the lákes of the Selk'nam

/396 cont./

372 (Vol. I, 205). They choose a straight stick, as thick as one's
412 thumb, of Berberis ilicifolia, strip it of leaves, twigs, and cracked parts of bark, smooth the surface, and split it two-thirds of its entire length which is hardly more than 65 centimeters. Afterwards the lower, split end is cut off flat. Since the tension of the wood fibers keeps the two ends spread slightly apart, these fire tongs can be easily manipulated simply with pressure (59).

[177]

59. Hyades (q):304 and Lothrop (b):130 have also described this implement briefly. The similarity in terminology between the Selk'nam and Yamana causes Lothrop to speak of a "cultural borrowing," which should not be dismissed.

137 The natives have the advantage, which they truly appreci-
313 ate, of some growth of trees throughout their homeland, even on the dreaded Cape Horn. It is lacking only on the low rocks and smooth stones that /397/ are exposed to waves and storms without any kind of protection. Wherever shallow crevices or protected ravines cut into the rocks, frail shrubs and thicker small trees cling, successfully resisting storms. The Indian finds his needed
313 fuel at every landing place, so to speak, although at some places he obtains it more easily. He prefers dry beechwood for his fire, for he dreads the damaging smoke of green logs (60). He finds it

60. Persistent watering of the eyes and slight inflammation of the eyelids are the consequences of the stinging smoke. See Hyades (q):346 and Lothrop (b):129, as well as footnote 56.

as driftwood that has been washed ashore by the waves. He also goes a few steps into the woods and breaks off dry branches with his hands. If they are higher up, he tosses the noose of his lasso around them, tugs vigorously, for beechwood is very tough, and pulls them down. He fells hollow tree trunks with the weight of his body and then splits them. As soon as a family lands, the
[157] children disperse throughout the neighborhood and gather wood which they bring to the campsite.

/397 cont./

313 which they bring to the campsite. The women also take part if more wood is needed. Even the men help, but limit themselves to uprooting heavy trunks or breaking off thick branches and dragging them to the hut. Sometimes they climb a tree, which the women never do. The branches they toss down are carried to the hut by the other members of the family. Everyone works in one way or another for this vital fuel.

372 Now and then they even store wood, chiefly in order to have some dry quickly available. In the simple family hut they pile up as much of it as space permits near the fire or on either side of the entrance. Larger quantities are stored in the so-called winter hut (p. 33), as well as in the enlarged hut for the celebration of the *ciexaus* and the *kina*. It helps a great deal if the wet wood is kept under cover for some time and touched by the heat of the fire. In the canoe they carry only a small amount, which is all the more carefully handled (p. 43). Whatever has been gathered together by the industry of the family is loosely leaned upright against the outside of the hut. The air outside and the slight flow of warm air from within combine to cause the moisture to drip off and gradually disappear. They never leave the gathered wood behind in the forest because it would not dry there. They would rather arrange it in a bundle and place it in an open spot where the sun and wind can get at it, if they cannot stack it beside the dwelling. Such piles of wood are easily identified as the property of a family, and other people do not touch them.

In the west it is incomparably more difficult to light the fire and keep it going, for the air is saturated with moisture and the ground is a lake. Laboriously they dry a few sticks beside the canoe fire during the trip, and upon landing, these make it possible to start the /398/ fire on the beach. They immediately place other logs near it, which are preheated before the hut for covering the new fire is completed. The latter is now sure to continue burning, and at the same time a bad smoke condition has been prevented. The Yamana know very well that the wood for the hut fire is better after it has remained exposed to the hot fire for an hour or so, or after the wind has swept through it on an open, exposed spot. Hence their uninterrupted efforts to have dry firewood.

/396 cont./

372 374 The vital importance of fire as such is increased still more by its many uses. It is an unsurpassed protection chiefly against cold and dampness. What it means to these people who, day after day, almost stark naked, are exposed to rain and snow, fog and wind, salt water, and wet earth can be adequately appreciated only by someone who has personally experienced the comfort of the fire under those conditions. The fire, always available in the hut and in the canoe, thoroughly warms the parts of the body that are uncomfortable. In a few minutes the feeling of cold vanishes and the stiffness of the limbs disappears, delicate wisps of steam rise from the surface of the body which has been drenched with rain, and anyone lingering for a while at the fire is restored to life. A person who wishes to have its effect for a longer time makes a small fire beside his pallet or the place where he sits. He brings his arms or legs quite close to it or bends his head and the upper part of his body over it. Everyone who must stay too far away from the fire in the middle part of the hut provides for himself in this manner.

752 His inseparable association with fire also explains why there is scarcely a Yamana to be met who does not have scars from burns (61). Small children often injure themselves badly.

61. After direct observations Hyades (f):559 even stated: "There is not a Fuegian who does not show mottling on his body, especially on his legs, due to the effect on the skin of prolonged stays in the immediate vicinity of the fire" /translated from French/.
Bove writes (MM:XVII, 235; 1883): "Professor Spegazzini examined more than fifty Fuegians, and did not find one amongst them free from the mark of serious burns" /cited in English/.

I saw coarse scar tissue, indicating a serious injury, on the entire right leg of a grown girl, the daughter of Felipe (62).

62. In more recent times, on July 19, 1902, J. Williams (MM:XXXVI, 277; 1902) reported the death "of a woman from burns.

/388 cont./

752 The whole of the lower part of her body was badly burnt, in some places the bones were exposed" /cited in English/.

515 It is not surprising that the entire surface of the body of these Indians and also every larger object they use exudes a penetrating odor of smoke. Moreover, the uncovered parts of their body become deeply tanned. I observed that my own face and hands became colored after only a few days of frequent visits to the Indian huts. This change disappeared only after persistent, thorough scrubbing with soap and warm water for a few weeks at home.

/399/ Our Indians do not use special material for illumina-
373 tion. The weak light given off by the fire suffices. They do not work at night anyway. If a light is necessary to look for something or to examine something, they strip off a handful of the brush with which their hut is covered and place it on the fire which immediately flames up brightly. In order to light a path in the dark, they wave a dry, smoldering piece of bark back and forth
[203] until it flares up. Signal fires serve to convey messages over a long distance and have special meaning.

The Indian roasts and fries his food at the fire and also
372 melts his whale blubber there. He never eats animal food raw. Finally, he needs the fire for some of his handiwork. With fire, he makes rushes flexible for the braiding of baskets and ropes; he bends the large pieces of bark for his canoe; he dries raw materials and implements before or during their utilization; he fells hollow tree trunks by burning them out, and so forth (63).

63. For the manifold uses of fire by these Indians, see Hyades (q):345. In Volume I, page 207, I have described how the Selk'nam make use of it.

The Yamana could probably do without their clothing and their miserable hut on the frosty Cape Horn archipelago, but they could never give up their open fire in the hut and in the canoe (64).

64. "As life is impossible here without fire, the

372 /399 cont./
women are like the vestals of old, and never allow the fire to go out in the frail barques" (MM:X, 20; 1876) /cited in English/.

B. Clothing

291 511 Since the time the Yamana became known beyond the borders of their remote island world, an amazing fact concerning them continues to be discussed in European circles to this day, namely, that they enjoy excellent health in their damp, raw homeland without any clothing and body covering to speak of. Every European is convinced that a human being under the weather conditions existing there must be dependent on very ample protection if he is to survive. Nevertheless, the short scrap of leather that the Fuegians hang loosely around their necks does not even deserve to be called clothing or body covering. All observers agree, and in their accounts express their astonishment in no uncertain terms, that the natives "ordinarily go about completely naked." These are also the specific words of one of the first missionaries, Aspinall: 270. Further documentation will be found below.

147 At the same time, observers recognize the healthy physical development and the great resistance of the natives, although they never describe the full significance of that most vital resource which is constantly at their disposal, namely, their open fire.

372 /400/ This fire more than compensates for the complete lack of protective body covering. An easily accessible stand of trees furnishes the required fuel for everyone. With it he can maintain a warm fire in the hut, in the canoe, in any open place, and at every campsite. The fire alone makes life possible in that region.

291 A short back-cape of skin is the only article of clothing, alike in shape and brevity for all sexes and ages. It is functional chiefly because it gives the comforting fire unobstructed access to the whole surface of the body.

291 891 In their manufacture of articles, our Indians are dependent primarily on furs and skins as their raw material. This is also true of the little that one might call their "clothing." A complicated method of preparation is not possible because there are no tools for it. Also, it would not be worthwhile because the high humidity

/449 cont./

396 501 was diamond-shape in section, so there was a tent-like ridge centrally down each side" /cited in English/. The length is never uniformly determined, but depends on the accidental length of the plank, varying by 150 centimeters. The blade measures about ten centimeters at its widest point. The husband adjusts the thickness of the well-rounded blade to suit his wife's wishes (Fig. 29).

501 [462] If necessity or danger during a trip should force a man to take an oar, he handles it in the same manner as the women. He does not, however, have his own oar, as Colini: 237 erroneously maintains.

Fig. 29. Oar Forms.

The most common designation for these oars, so-called paddles, is ápi; they are also called tstatéga and tuswéna. Every family carries at least two oars in their vessel.

506 ● 372 501 During the long trips our natives cannot possibly do without the fire. They keep it burning constantly in the canoe (p. 44). In the center of the bottom there is a specially prepared hearth, and adequate care is taken so that the bark underneath does not burn through. On the bottom they place a few flat stones close together so that there are no gaps. /450/ Upon this layer they place a rather large clump of turf which is at least seven centimeters thick, and its tangle of roots and coarse pebbles is turned upward. An alternative is to form a layer out of crushed mussel shells mixed with pebbles and lumps of clay. There is constant and ample moisture from the water that oozes in from below; hence this thick layer cannot become hot, and there is still less possibility that the bark floor can burn through. Since air has free access from all sides, the fire cannot flare up

/450 cont./

506 to a high flame. This must be avoided at all costs, so that the
372 side walls will not be endangered. A moderate glow without a
501 leaping flame suffices.

505 The firewood is kept partly near the hearth, ff, partly in
372 the stern. It has been stacked in orderly fashion to save space. The people of the west must always take along large amounts of wood; a small supply is adequate for the people of the east, which they pile up near the hearth. Wherever the latter land, they easily find dry driftwood, whereas the former cannot count on this. Quite dry wood has been carefully chosen for the trip, since damp wood causes smoke which the occupants in the cramped canoe can hardly evade. As a matter of course they leave the wood of Drimys winteri, which gives off a thick, biting smoke, behind on the shore.

The girls squat near the fire and tend it according to instructions from their mother. It is their task before the departure to carry a glowing log from the hut-fire to the hearth in the canoe and to fan a new flame. When they land, another glowing stick of wood from the canoe serves to kindle the fire in the newly erected hut. With scrupulous care they extinguish every spark from the fire in the vessel so that there is no danger of its bursting into flames.

501 Even the most careful canoe construction does not prevent
415 some water from constantly oozing in between the seams (139).

139. In Wieghardt:31 and elsewhere we read: "So much water constantly comes in that the people continually have to bail it out" /translated from Spanish/.

It collects near the hearth at a place that has been purposely left open, that is, the space of a hand's breadth between the loosely laid bark pieces, ff. The girls bail it out with a special scoop made either of bark or seal leather. For both kinds one first cuts out a rectangular piece which is then bent, the bark piece in the direction of its longitudinal fibers. After the two straight edges are joined with a strip of whalebone or a few rushes, making a seam, a bottom is cut out to fit this cylinder, which is also sewed on. Not infrequently a small handle of rushes is added in the

/459 cont./

396 thus permanently widened the upper half. Once the tree trunk was hollowed out and closed off at the stern, no further additions were required and it could be put to use immediately. The natives had to be content with a small fire which they kept going throughout the trip in a square tin can. [372]

501 504 Compared with the bark canoe, however, which had served the Yamana for centuries as their sole means of transportation, the modern dugout had many disadvantages. It capsized much more easily because it was not resilient and did not yield in any way, and because it was at least a quarter shallower than the bark canoe. Besides that, it could be moved on land only with great difficulty. True, the natives also made a sort of toboggan slide for it out of fresh algae, tuwēt̄ēka, over which it was hauled up and down. In spite of that, all the members of the family had to exert themselves to the utmost, otherwise they could not budge it. The wood of the /460/ Antarctic beech is heavy. Finally, the dugout could almost never be anchored in the open channel when the rocky coast did not permit its being hauled up. It was too heavy and too slippery to become entangled in a mass of floating Macrocystis. Ropes made of bundles of rushes (Fig. 31) are too weak to keep the boat tied up near the coast. If, in spite of this, it could be left out in the water, the natives could almost always expect it to overturn (154). Righting it again

> 154. Lothrop (b):146 says of the dugout which he took back to New York, "it was the most unstable vessel in which the writer has ever set foot" /cited in English/.

required great effort on the part of the woman, and bailing it out took considerable time.

501 In most recent times the natives have improved the dugout very much by elevating the gunwale slightly all the way around with a strip of wood nailed or sewed on. This afforded greater safety on the trip, but also added considerably to the weight of the whole thing.

Undeniably the dugout is more durable, but in contrast to this one advantage there are great drawbacks. Hence it is not surprising that after a few attempts the families of those days

/1160 cont./

113 connection the expression "first human beings" is again mentioned, it is merely to show that the Yoálox were present before the age of actual human beings. These Yoálox are not regarded as human beings in the strict sense of the word, but they are not associated with the personalities grouped around Lëm. It seems almost as though the preceding age had come to a close, and the Yoálox for their part inaugurate with their appearance a new type of existence as preparation for the actual, true human beings.

Then the story goes on. "The Yoálox family took long journeys throughout the wide world before they finally came here where the Yamana live today. Here, then, they began all kinds of work. When soon the [actual] human beings appeared who were born here [on the spot], the Yoálox taught them how they should arrange everything, what attitude they should have toward one another, and how they should associate with one another. The Yoálox also showed people all kinds of implements, utensils, weapons, and tools and taught them to handle all these things successfully. They were, after all, very capable men; that is why they invented the various weapons and tools which we use nowadays in hunting and fishing, in gathering, and in killing animals. They also showed how animals are to be reached in the water and on land, the great whales and sea lions, the otters and foxes, the many birds, the shellfish and crustaceans, how to skin them and make the skin serviceable, how to use and prepare the meat. All this the Yoálox invented and transmitted to human beings. Yoálox-tírmuxipa was the cleverest, and the younger brother, in turn, far surpassed the older one. They prove that a younger brother is often more capable and cleverer than his older brother."

All the Yamana are in complete agreement about the description of the persons set forth here. The stories that follow are more or less well known to every adult Yamana.

β. The Invention of Fire

113 It is told: Once the older Yoalox collected many small
• 32 stones and amused himself by hitting them against one another. Among them there was also a good sewíli (p. 39). When he hit

/1160 cont./

773 372 this against another stone, a small spark shot out. Surprised at this, he hit these stones together several times and each time /1161/ sparks shot out. Hastily he seized a handful of down-feathers. He placed them on the ground. Once more he began striking a spark from the sewáli. He placed himself in such a way as to hit the stone from a certain direction so that the spark leaped into the down-feathers. They began to glow, caught fire, and soon a small flame leaped up. They Yoálox quickly brought brush and wood and put it all on top. Thus a big fire started. It gave a most comfortable warmth. It felt good to Yoálox to sit beside the fire during the day and to sleep beside it at night. The fire also proved useful for many other things; it helped roast the meat, dry the skins, and bend pieces of bark and sticks or straighten them out.

Highly pleased, the elder Yoálox cried out: "The fire is inestimably beneficial and does many things. Let us keep it burning constantly, so that it will never go out. Once lighted, may it go on burning by itself so that human beings will have no trouble using it. They should not have to make an effort to rekindle it every time [in every case of need] or keep on feeding it with wood!" The younger Yoálox heard these words, and they put him in a bad humor. He did not at all like what his brother was planning. He immediately replied: "I am not in favor of what you wish. It is much better if people have to exert themselves. Everyone should make an honest effort for the fire and should tend it carefully. May everyone have to rekindle the fire anew if he has let it go out. Human beings should work!" Immediately he reached for a long stick, poked around in the embers with it, and scattered the smoldering logs. Then the whole fire went out. Since then every fire without exception will go out if it is not constantly and carefully tended. Thus everyone is forced to work.

Yoálox taught human beings how they must light their fire with the sewáli, how they must fan it and keep it going. Since then a person whose fire goes out must relight it with a great deal of effort. Yoálox wanted to force all human beings to guard the fire with incessant vigilance. Failing this, a person will lose it and will find himself forced to rekindle a new fire with great effort and keep it going.

2: Cooper E-4 (no date) 1946 SI46 Yahgan SI46

415 furnt from the man's. Among other more used containers were: pouches of seal or penguin skin for holding small objects; bladders or windpipes of seals or porpoises for holding ochre and firestones; crops of geese and stomachs of seals for holding oil. (Cf. others in Lothrop, 1928, p. 182.)

412 **Tools.**—These have mostly been dealt with incidentally in the preceding sections. The hafted mussel-shell scraper, mentioned above under "Skin dressing," was also the common knife. Stone-headed daggers or knives were used by the earlier *Yahgan* (Cooper, 1917, p. 207). The stone celt or ax was lacking. Wedges were of bone; arrow polishers, of a bit of pumice.

411 **Weapons.**—The characteristic weapons used by the *Yahgan* both in hunting and in fighting were the spear and harpoon (fig. 11, *a–c*), the club, and the sling. The bow and arrow, in contrast to *Ona* usage, occupied a very subordinate position.

The spear shaft was quadrangular, hexagonal, octagonal, or decagonal in section, from 8 feet (2.5 m.) or less to 12 feet (4 m.) long; the shank, ordinarily of bone, with unilateral or bilateral single or serrate barbs and with notched tang, lashed to the split or slotted end of the shaft. The atlatl was absent. The harpoon, without toggle, was merely a spear with a detachable shank tied by a thong to the shaft. The club was a plain straight heavy stick. The cradle of the sling was of hide, the lines of braided whale gut.

Yahgan bows, arrows, and quivers closely resembled those of the *Ona*—a curved self bow, ranging from about 3 to 4 feet long, with string of seal hide or of braided seal, whale, or guanaco sinew; the arrow, without foreshaft, and with triangular stemmed and barbed head of stone, bone, or, more recently, glass; the quiver, rectangular, of skin, or tubular, of bark. Arrow poisoning was absent. Both archeological and ethnological evidence suggests that the *Yahgan* most likely acquired the bow and arrow after their arrival in their historic habitat, from the *Ona*. (Cf. Bird, 1938, pp. 261–263; Cooper, 1917, pp. 211–213.)

378 372 **Fire making and illumination.**—The only method of fire making was by percussion with flint and pyrites, bird down or dried fungus serving as tinder. Fire was carried around in the canoe on a hearth of earth, shell, or stones. Two-pronged tongs were in use. Bark torches provided illumination. Fire was employed not only for cooking, heating, and lighting, but also for signaling, straightening arrow and spear shafts, bending canoe ribs, felling trees, preparing bark for canoes and material for baskets, and other purposes.

SOCIAL AND POLITICAL LIFE

264 **Marriage and the family.**—The sexes were kept separate after about the age of 7 and were warned by their elders against sexual liberties.

3: Lothrop E-5 (1924-1925) 1928
5316 Yahgan 5316

as much as five feet below the surface. Here the housetop must scarcely have risen above the ground level, and the people within must have been snugly lodged against winter gales. But the swirling smoke was a constant annoyance, and many accounts speak of the Yahgans' red and inflamed eyes.

Initiation or ceremonial houses differed from the living houses chiefly in size. In the west they were domed and oval in outline, as shown in pl. XIV. In the east they took the form of a heavy solid tipi-shape dwelling of logs like the Ona initiation lodge (fig. 38).

Under mission influence the Yahgan in late years built small plank houses of European type. A group of these was found at Puerto Mejillones and Porto Piedra on Navarin island which were used as winter quarters (pl. XVIII). They were wind- and water-tight, and some had wooden floors, bunks, and stoves. The material for their construction was begged, stolen, or picked up on the beach.

Camp Equipment

Yahgan camp equipment, in spite of superior transportation facilities, was just as primitive as that of the Fuet Indians, among whom every article, and the infants as well, had to be carried on the back. Strong and simple as are the objects below listed, they

FIG. 53.—Yahgan fire-making apparatus. a, Flint; b, punch; c, tinder; d, pyrites. Width of bag, 3 in. (14/5315)

3: Lothrop E-5 (1924-1925) 1928
5366 Yahgan 5366

afforded a basis for little more than the mere act of existence and entirely testify to the cultural poverty of their makers.

1. Fire-making Apparatus.—By all accounts the Yahgan rarely made fire, because they carried it with them on the hearths in their canoes. In their semi-nude society to lack fire might mean death, and so wherever they went they tried to husband a wisp of flame. When it was necessary to kindle a new blaze they used flint and pyrites (?-nalli) with dried fungus or down for tinder, after the fashion of the Ona. Various places in Fuegian waters where pyrites can be secured are mentioned on page 65; one of these, Morton island, lies in Yahgan territory. However, Rev. Thomas Bridges states that they got this material by trade with the Alacaluf, who obtained it on Clarence island. Especially fine flints were found in a valley called Anlawala between Lapataia and Ushuaia. To protect the fire-making apparatus from the weather it was kept in a small hide pouch called calew (fig. 33, b).

Fig. 34.—a, Fuegian fire stone; length, 6 in. (142370). b, Whalebone comb; length, 11 in. (142374). c, Seal-throat pouch; length, 6½ in. (142369)

2. Fire-tongs.—For tending the fire and for removing the objects from it the Yahgan used tongs. These are no more than a stick an inch or so in diameter and a couple of feet long, split for three-quarters of its length. Cultural borrowing is indicated by the name of this implement—kike in Yahgan,